MONEY DECISIONS I

VIC 20

Requires VIC 1110 8K Expansion & VIC 1530 Datassette

commodore

MONEY DECISIONS I

Money Decisions Loan Analysis

Requires 8K/16K Memory Expansion

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Preface

In today's fast-paced economy, you need to know how to get the most out of your hard-earned money, and your VIC-20 can help you learn how. The Commodore MONEY DECISIONS LOAN ANALYSIS software package lets your VIC-20 help you make the right financial decisions and plan for future expenditures.

You'll quickly realize that MONEY DECISIONS LOAN ANALYSIS is completely pre-programmed; you need absolutely no programming knowledge to use this product. All the screens are color-coded so you can easily see what to do next.

Here are the seven loan functions MONEY DECISIONS can help you determine:

- Principal
- Regular payment
- Last payment
- Remaining balance
- Time period
- Annual interest rate
- Variable rate loan

This manual follows the same logical sequence and uses the same terminology as the loan functions you will see on your screen. You will quickly learn all the MONEY DECISIONS capabilities and feel at ease with the package.

To make the manual a more useful tool for you, a glossary of terms is provided to clarify financial terminology. Some generally accepted concepts and practices are also presented.

Read through the manual and practice the examples so you feel at ease with the package in the shortest possible time. Then, you can easily select each loan function and enter your information. Each function requires only a few simple keystrokes. In just a few minutes, you'll master this powerful, easy-to-use product.

This program requires an 8K or 16K Memory Expansion cartridge.

User Conventions

The VIC-20 keyboard looks like a regular typewriter with a few extra keys; it is very simple to use. Here is a brief description of some of the conventions you should know to run MONEY DECISIONS LOAN ANALYSIS.

RETURN Pressing this key transmits information to the computer's memory.

SHIFT This key is like the **SHIFT** key on a typewriter; pressing it lets you enter the top characters on double-character keys.

/ In this manual, / denotes the CURSOR. This is the little colored rectangle you see blinking on your screen. It shows you where to begin entering information.

⇒ This is the prompt character which precedes the cursor on your screen. It indicates that you will be entering information on that line.

INST/DEL You can change information you have keyed in before you press **RETURN** by using the **INST/DEL** key.

INST stands for INSERT. You can add characters on a line by following these steps:

1. Position the cursor over the space where you want to begin adding characters.
2. Press the **SHIFT** key.
3. While holding down the **SHIFT** key, press the **INST/DEL** key.
4. You will see a new space provided on the screen for you to insert a character; if you wish to insert more than one character, simply hold the **SHIFT** and **INST/DEL** keys down. Spaces will continue to appear on your screen. Release the keys when there is enough room on the screen to insert the characters you need.
5. Insert the characters and continue with the program.

DEL stands for DELETE. You can delete characters on a line by following these steps:

1. Look at the cursor. The character immediately preceding its position will be the first character deleted when you press the **INST/DEL** key.

2. Press the **INST/DEL** key.
3. You will see the cursor move back one space and the character there will be erased.
4. If you wish to erase more than one character on a line, hold the **INST/DEL** key down and you will see characters deleted one at a time on your screen.
5. Continue on with the program.

'n' In this manual, any character surrounded by single quotes (') denotes entries you will key in. Enter only the character between the quotes and **not** the quotes themselves. For this example, **n** is the character, so you would key in only the **n;** not **'n'.**

"n" Any character surrounded by double quotes (") in this manual indicates information the program will present for you on the screen.

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Section I Tutorial

1.1. Getting Started

Here is how you start the MONEY DECISIONS LOAN ANALYSIS program. We suggest you follow right along on your machine, step by step.

1. Turn on your VIC-20.
2. If you have a printer, turn it on and align the paper.
3. Insert MONEY DECISIONS LOAN ANALYSIS cassette into your Datassette. Rewind the cassette to make sure the MONEY DECISIONS program is at the beginning of the tape.
4. Key in **'LOAD'** and press **RETURN.**
5. Follow the program's request to **"PRESS PLAY ON TAPE".**
6. After **"SEARCHING", "FOUND LOANS PAK", "LOADING",** and **"READY"** are displayed, enter **'RUN'** and press **RETURN.**

Now the following menu will be displayed for you.

```
$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
MENU DISPLAY
1 PRINCIPAL
2 REGULAR PAYMENT
3 LAST PAYMENT
4 REMAINING BALANCE
5 TIME PERIOD
6 ANNUAL INTEREST RATE
7 VARIABLE RATE LOAN
8 EXIT FROM PROGRAM
YOUR CHOICE IS (I-8):/
```

Enter your selection by making a single key entry corresponding to the loan function you wish to perform. Different menus will be displayed and you will be prompted for information needed for the function you chose on this first menu. After you have entered all the data the program requests, MONEY DECISIONS will calculate the function and display the results for you.

Section III of this manual follows the program step by step for computing choice number I, PRINCIPAL on a loan.

1.2. Guidelines for Entering Information

Here are some guidelines you should know when you are responding to the MONEY DECISIONS prompts:

- There are two ways of entering responses to the MONEY DECISIONS prompts. Some prompts require that you press **RETURN** after you enter the information and some do not.

  1. If you are responding to a black prompt on a white background, do not press **RETURN.** This type of prompt occurs when only one character is required as a response, such as **'Y'** or **'N'.**

  2. If you are responding to a black prompt on a gold or blue background, you must press **RETURN** after entering your response. This type of prompt occurs when you must enter numeric data for the loan functions, such as your response to the PRINCIPAL prompt.

- You may respond to a prompt with **'0'** by simply pressing the **RETURN** key; you will see a **"0"** on the next menu that displays your response.

- The message **"DATA ERROR"** will flash on a red background if entries are incorrect; press any key and you will see a prompt asking you to enter the item number that should be changed. Enter the item number and you will be prompted to change the incorrect item. Enter the correct information and continue on with the program from that point.

- If you enter **'R'** as a response to certain prompts, MONEY DECISIONS LOAN ANALYSIS will use the result of the previous MONEY DECISIONS LOAN ANALYSIS run for your entry. For example:

  1. Run MONEY DECISIONS LOAN ANALYSIS to determine principal on a loan; your principal is calculated to be $4000.00.

  2. Run MONEY DECISIONS LOAN ANALYSIS again, this time to compute your regular payment.

  3. When the program to determine your regular payment prompts you for the PRINCIPAL entry, key in **'R'** and the program will enter **$4000.00** for you.

  4. Continue answering all prompts and then you will see the REGULAR PAYMENT displayed for you.

- MONEY DECISIONS LOAN ANALYSIS can perform calculations on your individual responses. If you would like the program to add

("+"), subtract ("–"), multiply ("*"), or divide ("/") your entry, simply enter the appropriate arithmetic operator between your numeric responses. For example:

1. The program prompts you to enter your regular monthly payment.
2. You know your weekly payments are $50.00, so you can enter **'50 * 4'.**
3. The next screen will display your regular monthly payment as **'200.00'.**

NOTE:

You can use arithmetic operators with an **'R'** option if you wish. For example, you can enter **'R * 4'.**

- Exponents will not be accepted by the program; you must enter all responses in decimal format.
- Your screen shows only two decimal places, but if you enter more than two, the extended values will be used in processing your answer.
- Enter percent values as percents; do not enter them as hundredths. For example, 5 & 3/4% is entered as **'5.75';** it is not entered as **'.0575'.**
- If you enter a value that is more than nine digits long, percent signs **('%%%%%')** will appear on the screen because the screen cannot display numbers with more than nine digits. However, MONEY DECISIONS LOAN ANALYSIS can perform calculations on these numbers, so the program will still process correctly. You will not be able to view any answer that is more than nine digits long.
- When MONEY DECISIONS LOAN ANALYSIS prompts you for a whole number, any decimal value you may enter will not be processed even though that value will be displayed. For example:

  1. For the **NUMBER OF MONTHS** prompt, enter **'4.1'.**
  2. On the next display, you will see **'4.1'** listed as **THE NUMBER OF MONTHS.**
  3. MONEY DECISIONS LOAN ANALYSIS will calculate the answer using **'4'** for the **NUMBER OF MONTHS.**

  You may enter decimal values for any prompts that do not require whole numbers, such as **PRINCIPAL.**

1.3. Using Special Options

There are three special options you may want to use when you are running the MONEY DECISIONS LOAN ANALYSIS program. You can use these options only at certain points during the program's run. The options are:

1. **'S'**
   - Erases all previous entries and causes the program to prompt you for entries again. Valid only when you are responding to a data item prompt, such as **"NUMBER OF MONTHS".**

2. **'N'**
   - Cancels your request to change information you have entered. Valid only when you are responding to the prompt, **"ITEM # TO BE MODIFIED".**

3. **'P'**
   - Prints what you are currently viewing on the screen. Valid only when one of these prompts is displayed:
     - **"ANY CHANGES? (Y OR N)"**
     - **"RE-RUN? (Y OR N)"**
     - **"ALL NEW DATA? (Y OR N)"**
     - **"YOUR CHOICE IS (I-8)"**

     NOTE:
     If your printer is disconnected or turned off, this option is ignored.

If you want the program to go back to the first menu before the function has completed, simply press the up-arrow key located in the upper right hand corner of the keyboard and, if necessary, press **RETURN.** (You must press **RETURN** if you have just responded to a black prompt on a gold or blue background that has just prompted you for numeric data.)

1.4. Quitting the Program

To end the MONEY DECISIONS program, enter **'8'** when you are viewing the first menu. A **"BYTES FREE"** message appears on your screen, followed by **"Ready."** You are now ready to begin any other program.

Section II User Examples for Each Menu Selection

This section shows you some typical runs of the MONEY DECISIONS program. An example is provided for each choice on the first menu: PRINCIPAL, REGULAR PAYMENT, LAST PAYMENT, REMAINING BALANCE, TIME PERIOD, ANNUAL INTEREST RATE, and VARIABLE RATE. You may want to test your understanding of the program by entering these exact samples and seeing that you arrive at the same answer.

The program's functions operate on these assumptions:

- You pay the same amount each month;
- You do not borrow additional amounts of money on the same loan; and
- You do not skip any payments.

For a more detailed, step-by-step presentation, see Section 3.2.

2.1. Principal

Suppose you've watched your budget carefully and decided that you can afford to make a monthly payment on a new car. You can get a loan at an annual rate of 14.1% and you choose to pay off the loan in four years.

Now you need to know how expensive a car you can get under the monthly payment restraints of your cash flow. The PRINCIPAL function will determine the amount you can afford to borrow for the car.

This function calculates the initial amount (the principal) of a loan given a set of payment and interest conditions. You can use the PRINCIPAL function to determine how large a loan you can afford whenever you know how much you can afford in monthly payments.

Sample Application

You can pay $180 each month for 4 years on your new car. If the annual interest rate on a loan is 14.1%, what is the maximum amount (principal) you can borrow?

Information You Must Enter:

1. Regular Payment Amount — **'180'**
2. No. of Years — **'4'**
3. No. of Months — **'0'**
4. Annual Interest Rate — **'14.1'**
5. No. of Payments/Year — **'12'** (one each month)

Results:

"PRINCIPAL = $ 6574.94"

2.2. Regular Payment

For this example, suppose that you know how much a new car you want costs and you need to know if you can afford the monthly payments on such a loan. Use the REGULAR PAYMENT function any time you know how much you must borrow and you want to determine what monthly payment you can make.

You can use a number of different variables to arrive at an acceptable monthly payment amount; you may want to modify your entries and rerun the program using different information. You could, for example, use a repayment period of four years for one run and two years for another run. You may want to change the interest rate and run the program again. These changes will, of course, modify the final result.

Sample Application

You want to borrow $8500 over 4 years to purchase your new car. If the annual interest rate is 14.99%, what will your monthly payments be and how much interest will you pay?

Information You Must Enter:

1. Principal — **'8500'**
2. No. of Years — **'4'**
3. No. of Months — **'0'**
4. Annual Interest Rate — **'14.99'**
5. No. of Payments/Year — **'12'** (one each month)

Results:

"REG PAYMNT = $ 236.52"
"TOT INTRST = $ 2852.88"

2.3. Last Payment

Suppose you're already paying on a loan and decide to pay it off early. You need to know how much of the loan is still left to pay. You can use the LAST PAYMENT function to determine the amount needed to liquidate a loan obligation regardless of how many payments you have made to date.

You can use this function whenever you need to consider liquidating a loan with cash you have available. You can also use LAST PAYMENT to determine if you want to refinance your loan at a more favorable interest rate.

Sample Application

You have borrowed $8000 at an annual interest rate of 14.2% and you are currently making monthly payments of $200 each. You have been making payments for 4 years. What must the amount of the final payment be?

Information You Must Enter:

1. Principal — **'8000'**
2. No. of Years — **'4'**
3. No. of Months — **'0'**
4. Annual Interest Rate — **'14.2'**
5. Regular Payment — **'200'**
6. No. of Payments/Year — **'12'** (one each month)

Results:

"LAST PAYMENT = $ 1445.12"

2.4. Remaining Balance

Suppose you want to know what your balance is on a loan after you have been making payments for over 2 years. You may need to know this to discuss your financial situation with loan officers, security analysts, government agents, or others who require detailed information about your outstanding obligations. The REMAINING BALANCE function calculates the amount of an unsatisfied obligation.

Sample Application

You've borrowed $8500 at an annual interest rate of 14.87% and your payments have been $234 per month. You've been making regular payments for 2½ years. What is the outstanding balance on the loan?

Information You Must Enter:

1. Principal — **'8500'**
2. No. of Full Yrs Paid To Date — **'2'**
3. No. of Paymts Made This Year — **'6'**
4. Annual Interest Rate — **'14.87'**
5. Regular Payment — **'234'**
6. No. of Payments/Year — **'12'**

Results:

"BALANCE = $ 3858.93"

2.5. Time Period

Suppose you need to know when mortgage payments on a house you're considering purchasing would be finished. As you know, there are a variety of loan durations or maturities (terms) available whenever you go to take out a loan. Normally, the term will vary depending on the size of the loan.

Sample Application

Your mortgage is $75,000 and you have been making $672 payments every month. The annual interest rate is 10.25%. What is the time period of this loan?

Information You Must Enter:

1. Principal — **'75000'**
2. Regular Payment Amount — **'672'**
3. Annual Interest Rate — **'10.25'**
4. No. of Payments/Year — **'12'** (one each month)

Results:

"TERM = 30 YRS AND 0 MOS

2.6. Annual Interest Rate

For this example, you want to calculate the annual interest rate on a mortgage of $20,000 on which you are making monthly payments of $225.

Sample Application

If you pay $225 monthly on a $20,000 mortgage, what is the annual interest rate over a 30-year period?

Information You Must Enter:

1. Principal — **'20000'**
2. No. of Years — **'30'**
3. No. of Months — **'0'**
4. Regular Payment Amount — **'225'**
5. No. of Payments/Year — **'12'** (one each month)

Results:

"INT. RATE = 13.24%

2.7. Variable Rate Loan

Suppose you are considering taking out a long-term loan and you want to make payments that gradually increase as your salary goes up. When you know the initial or the remaining principal for an adjusted rate or roll-over mortgage, you can use the VARIABLE RATE function to calculate: initial payments, the balloon balance, and balloon payments.

The disadvantage in financing your purchases this way is that the total interest paid at the end of the mortgage will be higher than a traditional fixed rate mortgage. The advantage to doing this is that you can buy needed property at a lower initial monthly payment.

Sample Application

You have taken a 30-year, $90,000 mortgage. An interest rate of 14% will be applied for the first 5 years, and an interest rate of 19% will be applied for the next 25 years. What are the initial payments, balloon balance, and expanded payment amounts?

Information You Must Enter:

1. Current Principal — **'90000'**
2. Initial No. of Years — **'5'**
3. Initial No. of Months — **'0'**
4. Initial Interest Rate — **'14'**
5. No. of Payments/Year — **'12'** (one each month)
6. Remaining No. of Years — **'25'**
7. Remaining No. of Months — **'0'**
8. Adjusted Interest Rate — **'19'**

Results:

"INIT PAYMNT = $ 1066.38"
"BALLOON = $ 88588.00"
"NEW PYMNT = $ 1415.35"

Section III General Information

3.1. Loan Types

There are several types of loans you may want to know more about as you run your MONEY DECISIONS program. Here is a brief discussion of different kinds of loans so you can improve your understanding of all of the program's functions.

A commercial note is a short-term loan that you repay with a single payment. It may or may not be secured by collateral. There are two types of commercial notes:

1. Discounted Commercial Note

   Your interest charge is subtracted from the face amount; you actually receive less than the face amount, but repay the face value. For example, if the face value is $999.00 and the understood interest rate is 11%, you actually receive only $900.00 and must repay $999.00.

2. Non-Discounted Commercial Note

   You receive the face amount and repay the interest plus the face amount.

Keep in mind that **installment** loans are repaid with a **series** of periodic payments. When the payments are in equal amounts, the loan is said to be **amortized.** An **amortization schedule** shows you the principal part and interest portion of your payments.

One of the disadvantages of installment loans is that you always pay interest on the full amount of the loan even though the amount you owe is always decreasing. So, the **effective** rate is considerably higher than the simple interest rate. You can use MONEY DECISIONS to calculate the **effective** rate for you by choosing the ANNUAL INTEREST RATE function on the first menu.

("Truth in Lending Laws" exist to inform the prospective borrower about the actual repayment value when a loan is being made. The laws require the lender to publicize the **annual percentage rate** to be presented in advertising statements. The **annual percentage rate** (APR) is the **effective** annual rate you will be paying.)

3.2. Sample Run for Principal on a Loan

Here is a menu-by-menu presentation of the MONEY DECISIONS program. This example calculates the principal on a loan, choice number 1 on the first menu. When you enter **'I'** on the first display, the screen will clear and the following screen will appear:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL

REG PAYMNT => /

A cursor ('/') will be blinking on the display, waiting for your response.

For our example, the regular payment is $235.00. Enter **'235';** before you press **RETURN,** you may change your response by pressing the **INST/DEL** key and then entering your changes. Your response is not entered into the computer until you press **RETURN.**

Press **RETURN** and the following screen is displayed:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL
I REG PAYMNT = 235.00

 # OF YEARS => /

You can see that your response, **'235.00',** has been entered as the regular payment. A cursor will be blinking where you will enter your response to the number of years of your loan. For our example, enter **'4'** and press **RETURN,** remembering the computer does not receive your response until you press **RETURN.** Next, this screen is displayed:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL
1 REG PAYMNT = 235.00
2 # OF YEARS = 4.00

 # OF MNTHS => /

Enter **'0'** for the number of months and press **RETURN.** Remember that you can enter **'0'** or simply press **RETURN** and a **'0'** will be entered for you. The next screen displayed will be:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL
1 REG PAYMNT = 235.00
2 # OF YEARS = 4.00
3 # OF MNTHS = 0.00

INTEREST RATE => /

Enter the interest rate as **'16.00'** and press **RETURN.**

Then, you will see this screen:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL

1 REG PAYMNT =	**235.00**
2 # OF YEARS =	**4.00**
3 # OF MNTHS =	**0.00**
4 INT. RATE =	**16.00**

 # PAYMENTS/YEAR ⇒ **/**

Enter **'12'** for the number of payments per year and press **RETURN.** After you have responded to this prompt, you will see this screen:

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL

1 REG PAYMNT =	**235.00**
2 # OF YEARS =	**4.00**
3 # OF MNTHS =	**0.00**
4 INT. RATE =	**16.00**
5 # PYMTS/YR =	**12.00**

ANY CHANGES (Y OR N) **/**

Enter **'Y',** but do not press **RETURN.** You will now see a prompt requesting **"ITEM # TO CHANGE".** In this example, you want to change the interest rate, so enter **'4'** and press **RETURN.**

The next screen displays the area you want to change (the interest rate) on a blue background. The last line of the display prompts you for the new interest rate. Enter **'4.1'** and press **RETURN.**

The interest rate is corrected as shown here and you will see another **"ANY CHANGES (Y OR N)"** prompt.

$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL

1 REG PAYMNT =	**235.00**
2 # OF YEARS =	**4.00**
3 # OF MNTHS =	**0.00**
4 INT. RATE =	**14.10**
5 # PYMTS/YR =	**12.00**

ANY CHANGES (Y OR N) **/**

Enter **'N'** and do not press **RETURN.** You may see a **"WAIT . . . COMPUTING . . ."** message as computation occurs. After the answer has been calculated, it replaces the **"WAIT"** message. A prompt for re-running the function then appears on the last line of the display.

```
$$MONEY DECISIONS I$$
LOAN ANALYSIS PAK
PRINCIPAL
1 REG PAYMNT =        235.00
2 # OF YEARS =          4.00
3 # OF MNTHS =          0.00
4 INT. RATE =          14.10
5 # PYMTS/YR =         12.00

PRINCIPAL = $        8583.95

RE-RUN? (Y OR N) /
```

Enter **'N'.** The program returns to the first LOANS menu where you may now select additional functions. If you want to print the main menu, simply enter **'P'.** If you want to print the function results, enter **'P'** in response to the **"RE-RUN"** prompt.

If you answer **'Y'** to the **"RE-RUN"** prompt on the preceding screen display, you will be asked if you want to rerun the function with all new data. The preceding screen continues to be displayed until you enter an answer to this prompt.

If you enter **'N'** to the **"ALL NEW DATA"** prompt after entering **'Y'** to the **"RE-RUN"** prompt, you will be asked which item number from the previous run you wish to change. After you enter that number and press **RETURN,** you will see the item you wish to change displayed on a blue background as described in the sample run. Proceed with the program as discussed previously.

If you enter **'Y'** to the **"ALL NEW DATA"** prompt, the program will clear the data display area and start asking you for information from the first prompt (in this case, REGULAR PAYMENT) as if you had just selected the PRINCIPAL function.

To end the MONEY DECISIONS LOAN ANALYSIS program, enter **'8'.** A **"BYTES FREE"** message will appear on your screen, followed by **"Ready."** You are now ready to begin any other program.

3.3. Glossary

Adjusted rate mortgage	A mortgage amortization schedule that has been divided with interest rates and payments differing in each period. Usually the second period carries a higher interest rate and payments to balance out the return to the lender.
Amortization	A system for gradually satisfying a debt by paying off the loan and interest in installments.
Balloon Payments	The final payments of a note or obligation which are substantially larger than the previous installment payments. Frequently used to keep installments low when paying first and second mortgages.
Collateral	Assets pledged as security for a loan.
Decimal	A proper fraction in which the denominator is a power of 10, usually signified by a point placed at the left of the numerator. For example: .25 = 25/100
Effective Annual Interest Rate	The true percentage rate earned on an investment or paid on a loan when the effect of compounding the nominal rate is considered.
Integer	Any natural whole number, including negatives and zero.
Interest	Dollars paid by the borrower to the lender for use of cash.
Interest Rate	A percentage amount paid for the use of capital.
Loan	Something of value, usually money, borrowed at interest for a specified period of time.
Non-numeric	Any character other than 0 through 9. Such characters may be alphabetic or special characters like a dash (—) or an asterisk (*).
Numeric	Information consisting of the digits 0 through 9 or any combination of such characters.
Principal	The amount of money borrowed.

MONEY DECISIONS I

In today's fast-paced economy, you need to know how to get the most out of your hard-earned money. Your VIC-20 can show you how! This MONEY DECISIONS LOAN ANALYSIS package lets your VIC-20 help you make the right financial decisions and plan for future expenditures.

You need absolutely no programming knowledge to use this product. MONEY DECISIONS is completely pre-programmed; it is very clear and easy to use. With just a few simple keystrokes, you can improve your cash flow!

Money Decisions Loan Analysis shows you how to make the most out of these loan concepts:

- Principal
- Regular payment
- Last payment
- Remaining balance
- Time period
- Annual interest rate
- Variable rate loan

Financial terminology is defined and clarified in this package. Some generally accepted concepts and practices are also presented. Enjoy using MONEY DECISIONS and improve your budget at the same time!

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